



Immunological Aspects of the Pathogenesis of Gingivitis and Periodontitis

1. Abdullaeva N. I.

2. Akhmedov A. A.

Received 2nd Aug 2023,
Accepted 19th Aug 2023,
Online 9th Sep 2023

^{1,2} Samarkand State Medical University

Abstract: The participation of the immune system in the pathogenesis of inflammatory periodontal diseases is evidenced by numerous studies [36,38,106,118,151,155,158,168,178]. In patients with gingivitis and periodontitis, a violation of the immune status indicators was revealed - a change in the phagocytic activity of neutrophils, which is confirmed by a decrease in the phagocytic number to the phagocytic index [17,50,104,115]; an increase in the activity of enzymatic oxygen-radical reactions of neutrophils [56,100,106,143,167].

Key words: laboratory, immunological, Moreover, phagocytosis.

In addition, the number of leukocytes that carry markers of proliferative activity (SD 25) and apoptosis (SD 95) increases [91,117,130,134,179,182,194]. Much attention is paid to the study of the phagocytic activity of macrophages in inflammatory periodontal diseases. So, in the work of L.K. Loginova et al. (2005) established a connection between this phenomenon and the peculiarities of the pathogenesis of acute allergic inflammation, in which, in the process of long-term sensitization, the formation of a new type of receptors on macrophages, which have the ability to limit phagocytic activity, is induced [24]. A decrease in the intensity of phagocytosis is accompanied by an increase in chemotaxis processes in them, the intensity of which increases with the development of an inflammatory reaction and can be considered as a compensatory reaction that promotes phagocytosis processes under conditions of a decrease in the functional activity of macrophages. In addition, in the acute period, the content of reactive oxygen species in macrophages increases, which contribute to the processes of intracellular digestion, and in the chronic period it decreases [24]. Autoimmune mechanisms of inflammatory periodontal diseases have been proven by studies by L.Yu. Orekhova et al. The authors found an antigen in the oral fluid, which is a consequence of the destruction of periodontal tissues. This gave reason to believe that the autoimmune reaction to periodontal antigens plays a protective role, contributing to the elimination of components of damaged periodontal tissues [80,81]. state of immunogenesis. It is necessary to take into account the fact of the interdetermination of these phenomena, which, along with the sufficient inconsistency of the actual material, is the reason that the role of systemic factors in the occurrence and development of inflammatory periodontal diseases cannot be considered definitively established. In this regard, the modern level of dentistry determines the need to use a variety of microbiological, immunological, allergological, histochemical and other research methods, since with gingivitis and periodontitis there is a change in all parts of

immunity, both at the local and at the general level [116,164]. Petrov et al. (1997) proposed to assess the immune status in two stages. At the first of them, it is necessary to identify generalized characteristics of immunity, the presence of gross defects in the system of the cellular and humoral link. For this purpose, the authors recommend determining the absolute and relative number of lymphocytes in the blood, the concentration of serum immunoglobulins of the main classes, and the phagocytic activity of leukocytes.

At the second stage, an in-depth assessment of the immune status is carried out using modern methods [86]. However, this is possible only in a well-equipped immunological laboratory, while it is not possible to conduct such studies at a dental appointment. Moreover, a number of authors believe that the clinical assessment of indicators of the body's natural resistance is difficult. This is due to the large variability of individual indicators of the body's defenses, as well as the diversity and ambiguous influence of numerous endogenous and exogenous factors on the state of the general resistance of the body and its individual indicators [128]. In the armchair, therefore, general practitioners are forced to deal with the identification of its various violations and the prevention of possible consequences. In addition, it should be taken into account that changes in the periodontal complex are not a purely local process, therefore, in treatment, regardless of the age of the patient, a combination of not only local effects on the periodontium, but also the use of funds aimed at the patient's body as a whole is required [38,128].

Reference:

1. Ахмедов А. А. Иммунологические аспекты патогенеза гингивита и пародонтита //IQRO. – 2023. – Т. 3. – №. 2. – С. 121-123.
2. Astanovich A. A. Comparative Analysis of the Stress-Strain State of the Lower Jaw with Different Splinting Systems in Localized Periodontitis of Middle Gravity by Finite Element Modeling //Scholastic: Journal of Natural and Medical Education. – 2023. – Т. 2. – №. 5. – С. 181-187.
3. Zukhriddinovna, Z. D. (2022). clinical and metabolic peculiarities children and teenagers with arterial hypertension. central asian journal of medical and natural sciences, 3 (3), 177-184.
4. Astanovich A. D. A. et al. The State of Periodontal Tissues in Athletes Engaged in Cyclic Sports //Annals of the Romanian Society for Cell Biology. – 2021. – С. 235-241.
5. Jalalova D. et al. СОЧЕТАННАЯ СТОМАТОЛОГИЧЕСКАЯ И ГЛАЗНАЯ ПАТОЛОГИЯ //Science and innovation. – 2022. – Т. 1. – №. D8. – С. 91-100.
6. Akhmedov A., Rizaev J., Hasanova L. The evaluation of the functional condition of thrombocytes in athletes of a cyclic sport //International Journal of Advanced Science and Technology. – 2020. – Т. 29. – №. 5. – С. 1945-1947.
7. Jalilov R. B. et al. Key directions of development of measures to improve the reliability of electrical power systems //E3S Web of Conferences. – EDP Sciences, 2019. – Т. 139. – С. 01001.
8. Ахмедов А. А., Холбеков Ш. Т., Джулай Т. Е. Орфанные заболевания как медико-социальная проблема //Тверской медицинский журнал. – 2020. – №. 2. – С. 59-64.
9. Ортикова Н., Ризаев Ж., Кубаев А. Психосоматического напряжения у детей на амбулаторном стоматологическом приеме //Журнал стоматологии и краниофациальных исследований. – 2021. – Т. 2. – №. 3. – С. 59-63.
10. Саттарова, Х. С., Жалалова, Д. З., & Бектурдиев, Ш. С. (2011). Причины слепоты и слабовидения при сахарном диабете. Академический журнал Западной Сибири, (6), 27-28.

11. Ортикова Н., Ризаев Ж., Норбутаев А. Распространенность и причины стоматофобии у детей //Общество и инновации. – 2020. – Т. 1. – №. 1/С. – С. 706-709.
12. Ортикова Н. POLITICAL ELITE AS A SCIENTIFIC PROBLEM //МЕЖДУНАРОДНЫЙ ЖУРНАЛ КОНСЕНСУС. – 2021. – Т. 2. – №. 1.
13. Ортикова Н. Глобализация биоэтики в период пандемии COVID-19 //Общество и инновации. – 2020. – Т. 1. – №. 1/С. – С. 677-682.
14. Shernazarov, F., & Tohirova, J. D. Jalalova TYPES OF HEMORRHAGIC DISEASES. CHANGES IN NEWBOENS, THEIR EARLY DIAGNOSIS.–2022.
15. Иргашев Ш., Норбутаев А., Исламова Н. Эффективность энтеросгеля при лечении генерализованного пародонтита у ликвидаторов последствий аварии на черновильской АЭС //Общество и инновации. – 2020. – Т. 1. – №. 1/С. – С. 656-663.
16. Исламова Н., Чакконов Ф. Роль продуктов перекисного окисления липидов и противовоспалительных цитокинов крови в развитии заболеваний полости рта при гипотиреозе //Общество и инновации. – 2020. – Т. 1. – №. 1/с. – С. 577-582.
17. Ахмадов И. Н. Нарушения в системе перекисного окисления липидов при парадантозе //IQRO. – 2023. – Т. 3. – №. 2. – С. 124-127.
18. Nizomitdin A. I. Modern Methods of Odontopreparation for MetalCeramic for Beginner Prosthodontists //Eurasian Medical Research Periodical. – 2023. – Т. 18. – С. 98-102.
19. Shavkatovich O. R., Nizomitdin A. I. EFFECTIVENESS OF THE USE OF OSTEOPLASTIC MATERIAL" STIMUL-OSS" IN SAMARKAND //Web of Scientist: International Scientific Research Journal. – 2022. – Т. 3. – №. 11. – С. 612-617.
20. МЕЛИБАЕВ Б. А., МАХМУДОВА У. Б. ЭФФЕКТИВНОСТЬ ПРИМЕНЕНИЯ ПАРАПУЛЬПАРНЫХ ШТИФТОВ (ППШ) ПРИ ВОССТАНОВЛЕНИИ ДЕФЕКТОВ КОРОНКОВОЙ ЧАСТИ ФРОНТАЛЬНЫХ ЗУБОВ //ЖУРНАЛ БИМЕДИЦИНЫ И ПРАКТИКИ. – 2022. – Т. 7. – №. 1.
21. Jalalova, D., Axmedov, A., Kuryazov, A., & ГЛАЗНАЯ, F. S. С. И. ПАТОЛОГИЯ//SAI. 2022. № D8. URL: <https://cyberleninka.ru/article/n/sochetannaya-stomatologicheskaya-i-glaznaya-patologiya> (дата обращения: 01.12. 2022).
22. Makhmudova U. B. THE EFFECTIVENESS OF THE USE OF PARAPULPAR PINS (PPP) WHEN RESTORING DEFECTS IN THE CROWN PART OF THE FRONTAL TEETH //Asian journal of pharmaceutical and biological research. – 2022. – Т. 11. – №. 2.
23. Bakhtiyorovna M. U. CAUSES OF REMOVABLE DENTURE BREAKS AND ALLERGIC REACTIONS //Spectrum Journal of Innovation, Reforms and Development. – 2022. – Т. 10. – С. 374-377.
24. Obloberdievich S. J. Grade States Fabrics Periodontal by Clinical Indexes //Scholastic: Journal of Natural and Medical Education. – 2023. – Т. 2. – №. 5. – С. 175-180.
25. Nazhmiddinovich S. N., Obloberdievich S. J. Optimization of Orthopedic Treatment of Dentition Defects in Patients with Chronic Diseases of the Gastrointestinal Tract //Eurasian Research Bulletin. – 2023. – Т. 17. – С. 157-159. Qobilovna B. Z., Maxzuna U. Improvement of Providing Therapeutic Dental Care to Pregnant Women. Therapeutic and Preventive Measures //Eurasian Research Bulletin. – 2023. – Т. 16. – С. 146-150.

26. F. Shernazarov WHITE TONGUE OR FORMATION OF WHITE EYES CAUSES, METHODS OF TREATMENT // SAI. 2022. №D8. URL: <https://cyberleninka.ru/article/n/white-tongue-or-formation-of-white-eyes-causes-methods-of-treatment> (дата обращения: 27.01.2023).
27. F. Shernazarov SORE THROAT IN ADULTS AND CHILDREN, SYMPTOMS, CAUSES, TREATMENT, TIPS // SAI. 2022. №D8. URL: <https://cyberleninka.ru/article/n/sore-throat-in-adults-and-children-symptoms-causes-treatment-tips> (дата обращения: 27.01.2023).
28. F. Shernazarov FLU SYMPTOMS, FORM, CAUSES, DIAGNOSIS, TREATMENT AND PREVENTION // SAI. 2022. №D8. URL: <https://cyberleninka.ru/article/n/flu-symptoms-form-causes-diagnosis-treatment-and-prevention> (дата обращения: 27.01.2023).
29. F. Shernazarov ACUTE TONSILLITIS (ANGINA) CAUSES, COMPLICATIONS, DIAGNOSIS, TREATMENT, PREVENTION // SAI. 2022. №D8. URL: <https://cyberleninka.ru/article/n/acute-tonsillitis-angina-causes-complications-diagnosis-treatment-prevention> (дата обращения: 27.01.2023).
30. D. Jalalova, X. Raxmonov, F. Shernazarov РОЛЬ С–РЕАКТИВНОГО БЕЛКА В ПАТОГЕНЕЗЕ СОСУДИСТЫХ ЗАБОЛЕВАНИЙ ОРГАНА ЗРЕНИЯ У БОЛЬНЫХ АРТЕРИАЛЬНОЙ ГИПЕРТЕНЗИЕЙ // SAI. 2022. №D8. URL: <https://cyberleninka.ru/article/n/rol-s-reaktivnogo-belka-v-patogeneze-sosudistyh-zabolevaniy-organa-zreniya-u-bolnyh-arterialnoy-gipertenziey> (дата обращения: 27.01.2023).
31. D. Jalalova, A. Axmedov, A. Kuryazov, F. Shernazarov СОЧЕТАННАЯ СТОМАТОЛОГИЧЕСКАЯ И ГЛАЗНАЯ ПАТОЛОГИЯ // SAI. 2022. №D8. URL: <https://cyberleninka.ru/article/n/sochetannaya-stomatologicheskaya-i-glaznaya-patologiya> (дата обращения: 27.01.2023).
32. Farrukh Shernazarov, Jalalova Dilfuza Zuhridinovna MICROCIRCULATION DISORDERS IN THE VASCULAR SYSTEM OF THE BULBAR CONJUNCTIVA IN THE INITIAL MANIFESTATIONS OF CEREBRAL BLOOD SUPPLY DEFICIENCY // SAI. 2022. №Special Issue 2. URL: <https://cyberleninka.ru/article/n/microcirculation-disorders-in-the-vascular-system-of-the-bulbar-conjunctiva-in-the-initial-manifestations-of-cerebral-blood-supply> (дата обращения: 27.01.2023).
33. F. Shernazarov, D. Jalalova, A. Azimov, S. Azimova CAUSES, SYMPTOMS, APPEARANCE, TREATMENT OF VARICOSE VEINS // SAI. 2022. №D7. URL: <https://cyberleninka.ru/article/n/causes-symptoms-appearance-treatment-of-varicose-veins> (дата обращения: 27.01.2023).
34. F. Shernazarov, J. Tohirova, D. Jalalova TYPES OF HEMORRHAGIC DISEASES, CHANGES IN NEWBOENS, THEIR EARLY DIAGNOSIS // SAI. 2022. №D5. URL: <https://cyberleninka.ru/article/n/types-of-hemorrhagic-diseases-changes-in-newboens-their-early-diagnosis> (дата обращения: 27.01.2023).
35. Qobilovna B. Z., Nodirovich E. A. EVALUATION OF ORTHOPEDIC TREATMENT WITH REMOVABLE DENTAL PROSTHESES FOR PATIENTS WITH PAIR PATHOLOGY // Spectrum Journal of Innovation, Reforms and Development. – 2023. – T. 11. – С. 95-101.
36. Zhalalova, D. Z., & Pulatov, U. S. (2022). MICROCIRCULATORY DISORDERS IN THE VASCULAR SYSTEM OF THE BULBAR CONJUNCTIVA WITH INITIAL MANIFESTATIONS OF INSUFFICIENT BLOOD SUPPLY TO THE BRAIN. European journal of molecular medicine, 2(5).

37. Qobilovna B. Z., Azamatovich B. M. MANIFESTATION OF SYMPTOMS IN THE ORAL CAVITY IN PATIENTS WITH TUBERCULOSIS INFECTION //Web of Scientist: International Scientific Research Journal. – 2022. – T. 3. – №. 11. – C. 402-407.
38. Rustam R., Jurabek T. D., Qobilovna B. Z. The Role of Hygienic Education in the System Primary Prevention of Dental Diseases //Eurasian Research Bulletin. – 2023. – T. 17. – C. 45-49.
39. Tohirovna M. L., Qobilovna B. Z. Optimization of Conservative Treatment of Periodontal Diseases Using Modern Technologies //Eurasian Research Bulletin. – 2023. – T. 17. – C. 132-137.

